CHEST Annual Meeting | October 18-21 2020

Additional Abstracts

SESSION TITLE: Medical Student/Resident Critical Care Posters

SESSION TYPE: Med Student/Res Case Rep Postr

PRESENTED ON: October 18-21, 2020

A NEAR-FATAL CASE OF RUPTURED PULMONARY ARTERY AFTER AN ELECTIVE DIAGNOSTIC RIGHT AND LEFT HEART CATHETERIZATION

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INTRODUCTION: Right heart catheterization (RHC) is the gold standard procedure to quantify the severity of pulmonary hypertension. A rare associated complication is the development of a pseudoaneurysm, which can inadvertently occur when placing a catheter into the pulmonary artery. We present a case of a pseudoaneurysm that developed as a complication after an elective RHC

CASE PRESENTATION: 59-year old female with severe mitral stenosis complicated by pulmonary hypertension underwent elective right and left heart catheterization for progressive dyspnea. During Swan-Ganz catheter balloon dilation, she developed massive hemoptysis and subsequent hemorrhagic shock requiring emergent endotracheal intubation & hemodynamic resuscitation. CTA showed a 3.3 x 2.5 cm hemothorax requiring tube thoracostomy. A pseudoaneurysm of the superior segment of the left lower lobe pulmonary artery was identified. Her condition deteriorated warranting an embolization of the pulmonary artery and intensive monitoring. Hospitalization was complicated by a pulmonary embolism in the left upper lung lobe requiring Warfarin therapy which was later replaced by an IVC filter due to PEG site bleeding. After prolonged intubation, a tracheostomy tube was placed and condition improved. Given the severity of the mitral stenosis, valve balloon dilatation was performed and was later discharged eventually fully recovering

DISCUSSION: Pulmonary artery catheterization is safe especially when performed non-emergently. Pulmonary artery rupture is a rare but virtually fatal complication. It can be due to perforation by the catheter tip or balloon over-inflation. It should be suspected in patients who present with brisk hemoptysis. Associated risk factors include pulmonary hypertension, anticoagulation use, and mitral valve disease. Although it is rare with an occurrence rate of less than 0.03%, it carries a high mortality risk of more than 50%. Management can be either a bronchial blocker, hematoma evacuation, lobectomy, coiling or pulmonary artery embolization. The literature describing pulmonary artery rupture largely involved emergent procedures. Our case involved a non-emergent elective procedure. We identified 15 cases of elective/non-emergent procedures that led to similar outcomes and were treated by embolization. Instances where perforations were catastrophic were managed by lobectomies. Our patient was initially treated conservatively without any of the standard interventions. Her condition worsened and later underwent an embolization halting further complications. Early intervention is key as it increases the chance of survival and decreases complications

CONCLUSIONS: We recommend early intervention to minimize preventable sequale of death or permanent disability. Early identification and risk stratification of patients should be considered especially in those who are undergoing an elective procedure as the rate of mortality is very high

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Reference #3: Management of Catheter-Induced Pulmonary Artery Perforation: A Rare Complication in Cardiovascular Operations: Srikrishna Sirivella, MD, Isaac Gielchinsky, MD, and Victor Parsonnet, MD Ann Thorac Surg 2001;72:2056–9

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DOI: https://doi.org/10.1016/j.chest.2020.09.133